

# Detection and prevention of treatable visual failure in general practice: room for improvement?

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**SUMMARY.** *An ageing population, the introduction of sight test charges and a problem that has never been adequately addressed since the inception of the National Health Service presents general practitioners with the increasing burden of detecting and preventing visual failure which they feel poorly equipped to deal with. Ophthalmology in general practice is a fundamental requirement for the reduction of avoidable visual failure and this is probably especially true for elderly patients and diabetic patients. A postal survey of general practitioners in Brent and Harrow suggests that there is potential for major improvements in the delivery of eye care by general practitioners, often without much additional expenditure (the equipment is there but it is not used) and with minimal training requirements. Simple changes in already existing screening programmes could potentially have an immediate effect on the visual well-being of the community.*

**Keywords:** *eye disorders; vision disorders; ocular screening; general practitioner role; interprofessional relations.*

## Introduction

OPHTHALMOLOGY, among the many clinical specialties practised by the non-specialist, has long been recognized as unusual. It is given little attention as an undergraduate subject<sup>1</sup> and is relatively infrequently included in general practice vocational training schemes.<sup>2</sup> Examination equipment is considered difficult to use, compounding the perception held by many that the eye is a small, inaccessible organ too challenging to be mastered in any depth by the generalist. As Gilkes pointed out, many doctors 'freely confess their ignorance and even fear, of the mysteries of the eye' in a way that they would not in relation to other specialties.<sup>3</sup>

## Prevalence and causes of visual failure

Several studies have drawn attention to the high prevalence of undetected and/or preventable visual failure in the community, particularly among elderly people.<sup>4-7</sup> One study looked at more than 200 patients aged 65 years and over selected randomly from one practice's age-sex register.<sup>6</sup> The researchers discovered that only half the patients with low vision (less than 6/18 in best eye, World Health Organization criteria) were known to their general

practitioner, and that some 27% of the sample would probably have benefited from spectacles.<sup>6</sup>

Another paper reported that 34% of patients aged 65 years and over attending an accident and emergency department had some degree of visual impairment that spectacles would have helped.<sup>7</sup> Long and colleagues examined the visual acuity of 202 elderly people attending a hospital outpatient clinic.<sup>5</sup> They found that 72 (36%) had impaired vision, of whom 30 would have benefited just from a pair of spectacles. Notably, only 17% of all those tested recognized they had any degree of visual impairment.

The largest group of patients with preventable and/or treatable visual failure seen in the general practice setting are also the most easily detectable and include those with refractive errors, cataracts, and diabetic retinopathy.<sup>4-7</sup> Other important causes of blindness seen in the community are chronic glaucoma and age-related macular degeneration but these are more difficult to diagnose and/or treat. Diabetic retinopathy affects many younger patients and indeed is the commonest cause of blindness in the working population, despite it being nearly always preventable if detected early. Moreover, this statistic has remained unchanged for at least the last 20 years.<sup>8</sup>

## Importance of detecting visual failure

Few would argue that loss of vision in a previously active diabetic person is anything but a tragedy. However, among elderly people it could be argued that if individuals deny any problem in their lifestyle, why should they be turned into a patient on the basis of a Snellen chart visual acuity score? We suggest it is important to detect impaired vision, especially among elderly people, for the following reasons.

First, patients are often unaware of just how poor their vision is.<sup>5</sup> Elderly people who say they can see well enough for their needs,<sup>9</sup> may simply have adapted to their gradually deteriorating vision when potentially their function could be greatly improved perhaps with just a pair of glasses.

Secondly, where reduced vision is irremediable, registration (partially sighted or blind) should be considered. Registration, apart from the minor financial benefits, is the single most important factor in facilitating social services support for visually impaired elderly people.<sup>10</sup>

Thirdly, visual acuity in elderly people is not just a quality of life issue. Poor vision in one or both eyes has been shown to be a significant risk factor for falls and fractured neck of femur among elderly people,<sup>11,12</sup> with much consequent morbidity and mortality.

## Can general practitioners do more to detect and prevent visual failure?

Specialists are often criticized for prioritizing their own area of expertise, perhaps forgetting that general practitioners have wider interests and responsibilities. A survey of eye care in general practices could reveal areas where simple improvements could be undertaken without significantly affecting workload. Some general practice studies of eye care have looked at management and referral patterns of patients with known eye disease.<sup>2,13-15</sup>

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We recently looked at some of the possible reasons why so much preventable visual disability is not actually detected by general practitioners, by means of a postal questionnaire to 271 general practitioners in the Brent and Harrow family health services authority in 1993. A 59% response rate was achieved (159 doctors), which was lower than a general practice eye care study in Devon<sup>2</sup> which achieved a 75% response rate but compared favourably with a postal survey of red eye to which only 28% of doctors replied.<sup>13</sup> Regarding practice characteristics, there was a bias towards responses from training practices and, interestingly, single handed general practitioners. It is doubtful that non-respondents would have been considerably more interested in and proficient at ophthalmology than respondents and quite possibly less so. The results, therefore, may be a useful insight into the population studied and give a conservative estimate of any deficit in detection and prevention of visual failure.

### Eye tests

**Snellen chart.** Use of the Snellen chart, if necessary modified to the three-metre version such as the Sonksen Silver<sup>®</sup> visual acuity system (Keeler Limited), remains a quick, easy and cheap investigation of visual acuity and is quite adequate for screening purposes. Factors affecting accuracy and consistency include the viewing distance and the illumination of the testing environment. Some 31% of general practitioner respondents to the postal questionnaire were uncertain of the accuracy of their testing distance, suggesting a need for greater consistency in this area.

**Pinhole test.** The pinhole test is useful for differentiating refractive from non-refractive visual failure, is routinely used in hospital eye departments and easily performed in the primary care setting. Improved acuity through a pinhole is often reassuring to both doctor and patient, usually indicating that a pair of glasses will remedy the situation. Only 43% of doctors in the postal survey possessed a pinhole device and its use was infrequent.

**Fluorescein staining.** Fluorescein staining of an inflamed eye is useful to exclude corneal pathology (for example, abrasions and dendritic ulcers) although appears to be inconsistently used. Respondents reported using it for about half of their patients with a red eye.

**Reporting eye test results in referral letters.** Visual acuity is the most basic parameter of an eye examination, comparable to blood pressure when assessing a cardiac patient. It does not take any longer to perform than measuring blood pressure if one includes time involved when the patient removes a jacket and rolls up a sleeve to have blood pressure measured. It is vital information if a specialist is to assess the urgency of a referral or to assess a trend when the patient is seen in a clinic, especially where the complaint is one of visual failure. It is therefore regrettable that of general practitioner respondents only 13% reported consistently mentioning visual acuity in referral letters. In a retrospective study of referred patients with visual loss, visual acuity was mentioned in only 6% of letters.<sup>16</sup>

### Visual acuity testing for particular patients

**Health assessments for those aged 75 years and over.** The benefits of the annual health assessment of patients aged 75 years and over are still debated although it is generally accepted that if done well by trained staff it does improve function among elderly people.<sup>17,18</sup> The questionnaire survey of doctors in Brent and Harrow showed that 87% of those who responded reported performing the health check, which includes an assessment of visual function. Only 4% of doctors reported measuring visual acuity

consistently in the health check. Increased frequency of objective measurement (and total number screened), as opposed to merely asking patients about their perceived vision, would increase the detection rate of undiagnosed visually impaired people. Where possible, it is also important to consider home lighting<sup>19</sup> and whether patients actually wear the glasses they have been prescribed.

**Patients with red eye.** A red eye is the commonest reason for a patient to present with an eye problem in general practice and seldom causes a management problem. Precise diagnosis is often lacking, but fortunately this rarely leads to serious consequences.<sup>13</sup> A red eye with a reduced acuity should caution against a diagnosis of conjunctivitis and is often the only gross sign of a more serious pathology. Only 18% of general practitioner respondents reported consistently measuring acuity in a patient with red eye and 16% reported that they never did.

**Diabetic patients.** Acuity measurement is important in diabetic patients and again accurate objective recording will be useful for future comparison, while detecting any asymptomatic patients who may not have noticed slow unioocular visual failure. Only 30% of respondents to the postal survey reported consistently measuring the vision of their diabetic patients. Hopefully, retinopathy should be detected before symptoms develop but absence of retinopathy does not exclude visual failure owing to refractive error or cataract, both easily treatable conditions.

Of doctors responding to the questionnaire, 96% possessed an ophthalmoscope although many suggested they would benefit from having it serviced. Of particular interest was current funduscopy practice when screening diabetic patients. Ophthalmoscopy through an undilated pupil is both insensitive and non-specific, even when performed by an experienced ophthalmoscopist.<sup>20</sup> Of respondents who assessed diabetic patients' eyes, and therefore took responsibility for excluding or diagnosing retinopathy, 75% failed to dilate their patients' eyes consistently. Even in general practice where, by necessity, clinical examination is often abbreviated, retinoscopy through an undilated pupil is inadequate and could have medicolegal consequences if sight threatening retinopathy is missed. The main reasons given for failing to dilate the pupil were fear of precipitating acute closed angle glaucoma, a history of glaucoma, inconvenience to the patient and lack of time.

In one study the incidence of acute closed angle glaucoma in the population was reported as 0.09%<sup>21</sup> although it is not clear whether this was an annual incidence. The condition is confined almost exclusively to elderly people and/or those who are very long sighted. The incidence of diabetic retinopathy among the 2% of the population who are diabetic is about 40-50% after 10 years and more than 90% after 20 years<sup>8</sup> that is, the chance of a diabetic patient developing retinopathy is far greater than of being at risk of acute closed angle glaucoma.

A patient with a history of glaucoma is paradoxically not at risk of acute closed angle glaucoma when the pupils are dilated.<sup>22</sup> A patient with open angle chronic glaucoma is by definition not at risk of angle closure. Moreover, a patient with a history of acute closed angle glaucoma should have been treated to prevent any recurrence.

Inconvenience to the patient is again not a satisfactory reason for not dilating pupils. If the patient understands the importance of the test being undertaken on an approximately annual basis, and is advised to make arrangements in advance, he/she will not object to the temporary blurring and glare that can occur following dilation of the pupils. Lack of time can be solved by asking the patient to sit in the waiting room while the pupils dilate, allowing the general practitioner to see other patients in the meantime.

Patients should be warned of the symptoms of acute closed angle glaucoma (worsening vision, pain and redness) so that in the very rare instance of it occurring, they can report early for treatment and avoid any long-term damage, moreover, this is arguably preferable to allowing spontaneous occurrence sometime in the future when diagnosis and treatment would probably be delayed, with subsequent ocular damage.

### Training in ophthalmology

There is a perceived need to improve doctors' ophthalmology training at undergraduate and postgraduate level<sup>2,4</sup> and this would contribute to earlier and more reliable detection rates of commoner sight threatening conditions. Archer reviewed undergraduate ophthalmology training in 1985 and described the lack of prominence given to the subject at this level.<sup>1</sup> It is doubtful that the subject has received any more attention since this time.

With particular reference to diabetic eye disease, for which many general practitioners are already actively involved in screening, one study has shown that intensive screening can substantially improve detection rates by non-specialists.<sup>23</sup> In addition, better systematic care of diabetic patients in general practice, as encouraged by the new health promotion recommendations, may improve the screening process.<sup>24</sup> MacCuish was less positive, acknowledging that in a practice of 10 000 patients (assuming an optimistic detection rate of diabetic patients of 2%) with half the patients attending a hospital clinic, only two patients per week will require ophthalmoscopy making it difficult to gain experience.<sup>8</sup>

### Optometrists (ophthalmic opticians)

Increased cooperation between optometrists and general practitioners is to be encouraged. Not only can optometrists correct any refractive error (detected by the pinhole test) or recommend referral as appropriate, but also they are highly trained and potentially effective in screening for diabetic retinopathy and glaucoma.<sup>25,26</sup>

While patients at risk of retinopathy and glaucoma receive free eye testing others (except those on income support, family credit or fulfilling the AG1 means test form) have to pay for the use of this medical resource. Rosenthal commented on the 30% fall in eye testing after charges were introduced, suggesting that it was at least partly owing to the cost.<sup>27</sup> Reinstein and colleagues also revealed that this was a deterrent for many.<sup>7</sup> We suggest, however, that patients should at least be made aware of their handicap for the reasons already mentioned, and be offered the chance to realize a full visual potential.

### Conclusion

With fewer ophthalmologists per head of population in the United Kingdom than any other nation in the European Union (Royal College of Ophthalmologists data), together with much undetected, treatable visual morbidity, which will increase with an ageing population, general practitioners will have to address the problem. Better, formalized training will help, and much perhaps could be delegated to others, for example, practice nurses or optometrists. We suggest, therefore, that simple changes in already existing screening programmes could potentially have an immediate effect on the visual well-being of the community.

The principal recommendations are: to increase the frequency of screening visual acuity, either opportunistically or within existing programmes, especially among elderly people; to ensure that visual assessment is objective, especially among elderly people, diabetic patients and any patient complaining of visual

failure; to dilate the pupils of all patients being screened for diabetic retinopathy; and to increase the use of the pinhole test to differentiate refractive from non-refractive visual failure.

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